July 18, 2007

MEMORANDUM TO: Brian W. Sheron, Director
Office of Nuclear Regulatory Research

FROM: Michael F. Weber, Director /RA/
Office of Nuclear Material Safety
and Safeguards

SUBJECT: TECHNICAL ASSISTANCE REQUEST - SUPPORT FOR REVIEW OF URANIUM ENRICHMENT AND MIXED OXIDE FUEL FABRICATION FACILITY LICENSE APPLICATIONS AND CONSTRUCTION INSPECTIONS

Consistent with the previous fuel cycle licensing support request you recently closed out, the Office of Nuclear Material Safety and Safeguards (NMSS) requests technical assistance from the Office of Nuclear Regulatory Research (RES) in reviewing the following projects:

Projects:
1. Two Future Enrichment Plant License Applications
2. Construction Inspections for New Enrichment Facilities
3. Mixed Oxide Fuel Fabrication Facility (MFFF) License Application

Casework/HRMS/TAC Nos: Casework, Human Resource Management System (HRMS), and Technical Assignment Control (TAC) numbers will be provided by the NMSS Project Manager for their project.

Requested Action:

As described in the enclosure, for future enrichment plant license applications, provide technical support for licensing review in the areas of: electrical, digital instrumentation and control, seismic and tornado hazards, structural analysis, and human factors.

For facilities currently under construction, provide technical support for construction inspection activities in the area of: seismic and structural. The two facilities that are currently under construction are the Louisiana Energy Services (LES) National Enrichment Facility (NEF) and the USEC Inc. (USEC) American Centrifuge Plant (ACP). Support includes technical review of analyses prepared for the NRC by the Center for Nuclear Waste Regulatory Analysis.

For the MFFF, provide technical support for licensing review in the areas of: human factors, electrical, and digital instrumentation and control.

The RES reviewer(s) shall, as needed: prepare or review Requests for Additional Information (RAIs) in the technical reviewed areas; participate in meetings and conference calls with the applicant or licensee; perform site visits; and, prepare or review sections of a draft and final Safety Evaluation Report (SER) with proposed license conditions.

Specific schedules for the preparation/review of RAIs and draft sections for the SERs will be established when NMSS receives the license applications for each proposed facility. Shaw AREVA MOX Services MFFF license application was submitted in September 2006 and is currently being review by the staff. Attached is the MFFF review schedule.

Please provide the information requested below to the Licensing Assistant (LA) or Project Manager (PM) within two weeks from the date of this memorandum.

Name(s) of Reviewer(s)

Projected Completion Date

Branch Chief

Contacts: PM for LES: Timothy C. Johnson; 492-3121
PM for USEC: Julie Olivier; 492-3115
PM for MFFF: David Tiktinsky; 492-3229
PM for GE/Silex: Timothy C. Johnson; 492-3121
PM for AREVA NC: Julie Olivier; 492-3115
LA: Linda Williamson; 492-3118

The TAC numbers should be referenced in future correspondence related to this request and in HRMS for recording staff time expended on this effort.

This technical assistance request supersedes the previous request to the RES for assistance to review gas centrifuge enrichment facility license applications dated January 13, 2004, which you closed out in June 2007.

Docket Nos.: 70-7003, 70-7004, 70-3098, 70-3103

Enclosures:
1. Requested Technical Assistance for RES on Future Enrichment Plant Facilities, Construction Inspection, and MOX Fuel Fabrication Facility Application Reviews

2. MOX Fuel Fabrication Facility Review Schedule

Please provide the information requested below to the Licensing Assistant (LA) or Project Manager (PM) within two weeks from the date of this memorandum.

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OFC	ECB		ECB		ECB		MB		ECB	
NAME	ISpivack		JOlivier /I. Spivack for/		TJohnson		DTiktinsky		LWilliamson	
DATE	06/07/07		06/7/07		06/7/07		06/10/07		06/11/07	

OFC	ECB		FFLD		FCSS		NMSS	
NAME	BSmith		GJanosko		RPierson		MWeber	
DATE	07/03/07		07/11/07		07/13/07		07/18/07	

OFFICIAL RECORD ONLY

Requested Technical Assistance from the Office of Nuclear Regulatory Research on Future Enrichment Plant Facilities, Construction Inspection, and Mixed Oxide Fuel Fabrication Facility Application Reviews

A. Technical Issues

The Office of Nuclear Material Safety and Safeguards (NMSS) is responsible for the licensing and regulation of gas centrifuge enrichment facilities and fuel fabrication facilities. Louisiana Energy Services (LES) and USEC Inc. (USEC) are both proceeding with construction of their full-scale gas centrifuge enrichment facilities. Shaw Areva MOX Services (MOX Services) submitted a license application for possession and use of special nuclear materials at the mixed oxide fuel fabrication facility (MFFF) in September 2006. NMSS expects two applications for commercial enrichment plant facilities to be submitted in fiscal year 08 (General Electric/Silex and AREVA NC). At this time, NMSS staff plans to conduct its safety review of enrichment facilities in accordance with NUREG-1520, "Standard Review Plan for the Review of a License Application for a Fuel Cycle Facility." The MFFF application will be reviewed in accordance with NUREG-1718, "Standard Review Plan for the Review of an Application for a Mixed Oxide (MOX) Fuel Fabrication Facility." The standard review plans address the areas needed for review of the applications. NMSS requests assistance from RES to review technical issues in the areas of structural design, seismic hazards, tornado hazards, human factors, electrical, and digital instrumentation and control.

B. Regulatory Application

Parts 40 and 70 establish the requirements for issuance of a license for a uranium enrichment facility (non-gaseous diffusion plant) and a fuel fabrication facility. These requirements derive from the Atomic Energy Act (including Section 193), and establish licensing requirements for uranium enrichment facilities or fuel fabrication facilities. These requirements include mandatory formal hearings, preparation of an Environmental Impact Statement (EIS), a prohibition of construction until license issuance following the hearing, inspection of the constructed facility prior to license issuance, and public liability insurance. U.S. Nuclear Regulatory Commission (NRC) staff will review a complete facility safety analysis, design of safety equipment and operator actions, management measures, an emergency plan, a physical protection plan, and a material control and accounting plan. This review process is conducted before a construction and operating license is issued to a uranium enrichment facility or fuel fabrication facility. The review process for the MFFF is on a three-year schedule while the review process for a commercial enrichment facility is on a 30-month schedule. There is no mandatory hearing requirement for the MFFF. The construction process review schedule is two years for the commercial uranium enrichment facilities.

For commercial-scale uranium enrichment facilities and fuel fabrication facilities, NRC must prepare an EIS. The preparation of the EIS will include scoping, preparation of a scoping report, and preparation of a draft and final EIS.

C. Products

The products needed by NMSS include:

1. Acceptance review comments on applicable sections of the license applications, including screening for sensitive security information that should be withheld from public disclosure.
2. Comments on applicable sections of the license applications.
3. Comments on the environmental reports.
4. Draft and final safety evaluation report sections for the areas of structural design, seismic hazards, tornado hazards, human factors, electrical, and digital instrumentation and control.
5. Appropriate technical review and oversight for the Center for Nuclear Waste Regulatory Analyses (CNWRA) tasks in the areas of seismic hazards, tornado hazards, and structural analysis.
6. Comments on construction inspections.
7. For hearings, appropriate information will need to be developed to support litigation activities.

D. Schedule

Estimated calendar year review schedules for the license application reviews are as follows:

Activity	GE/Silex	AREVA NC	MFFF
Submittal of License Application	early 2008	mid 2008	September 2006
Submittal of Environmental Report	early 2008	mid 2008	N/A
Acceptance Review input to project manager	21 days after submittal*	21 days after submittal*	complete
Start Technical Review	21 days after submittal*	21 days after submittal*	complete
Request for Additional Information to project manager	3 months after submittal*	3 months after submittal*	early 2008
Draft SER Sections to project manager	6 months after submittal*	6 months after submittal*	early 2009
Final SER Sections to project manager	10 months after submittal*	10 months after submittal*	mid 2009
Participate in Hearing	30 months after submittal*	30 months after submittal*	beginning or early 2010 (if needed)
Construction Review	Up to 2 years after license issuance	Up to 2 years after license issuance	Up to 2 years after license issuance

* Depending on the FY08 budget, initiation of the review may be deferred until the beginning of FY09 due to resource limitations.

E. Priority

The review of any future enrichment plant and MFFF applications will be high priority Agency actions.

F. Level of Effort

The estimated RES levels of effort are as follows:

Technical Area	Project	FY07 (FTE)	FY08 (FTE)	FY09 (FTE)	FY10 (FTE)
Human Factors	AREVA NC	0.0	0.1*	0.2	0.2
	GE/Silex	0.0	0.1*	0.2	0.2
	MFFF Full-Scale	0.4	0.4	0.4	0.1
Construction Inspection	AREVA NC	0.0	0.0	0.0	0.1
	USEC and LES	0.2	0.2	0.2	0.0
	GE/Silex	0.0	0.0	0.0	0.1
	MFFF Full-Scale	0.0	0.1	0.1	0.1
Seismic, Tornado, and Structural	AREVA NC	0.0	0.1*	0.2	0.2
	GE/Silex	0.0	0.1*	0.2	0.2
	MFFF Full-Scale	0.0	0.0	0.0	0.0
Electrical, Instrument-ation and Controls	AREVA NC	0.0	0.1*	0.2	0.2
	GE/Silex	0.0	0.1*	0.2	0.2
	MFFF Full-Scale	0.4	0.4	0.4	0.1

* May be deferred until FY09 due to budget constraints
(FTE = full-time equivalent)

G. Technical Monitor

- Timothy C. Johnson (492-3121, email - TCJ) will serve as NMSS' contact for the LES project.
- Timothy C. Johnson (492-3121, email - TCJ) will serve as NMSS' contact for the GE/Silex project.
- Julie Olivier (492-3115, e-mail - JAO) will serve as NMSS' contact for the USEC project.
- Julie Olivier (492-3115, e-mail - JAO) will serve as NMSS' contact for the AREVA NC plant project.
- Dave Tiktinsky (492-3229, e-mail - DHT) will serve as NMSS' contact for the MFFF project.

Mixed Oxide Fuel Fabrication Facility Calendar Year Schedule
(Last updated - 5/29/07)

DATE	ACTION
09/27/2006 C	(NMSS) Application received from MOX Services
11/17/2006 C	(NMSS) Reviewers provide acceptance review input to PM
12/20/2006 C	(NMSS) NRC completes acceptance review of application
Mid 2007	(NMSS) Issue first RAI for application
Late 2007	(NMSS) MOX Services responds to application RAI #1
Mid 2008	(NMSS) Issue Second RAI for application
Late 2008	(NMSS) MOX Services responds to application RAI #2
07/24/2009	(NMSS) Reviewers submit draft SER sections to PM
10/10/2009	(NMSS) Revise SER for management concurrence
11/27/2009	(NMSS) Transmit preliminary SER to applicant for accuracy check
12/4/2009	(NMSS) MOX Services responds to preliminary SER review
12/11/2009	(NMSS) Revise SER to incorporate MOX Services factual changes
12/14/2009	(NMSS) Provide SER to management for concurrence
12/21/2009	(NMSS) Issue SER
12/22/2009	(ASLB) Public hearing begins (if required)
05/10/2010	(ASLB) ASLB issues final decision
01/17/2011	(Commission) Commission issues approval for construction

C = complete